

Lecture 24

Java – Conditional if Statement

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| Conditional Execution

- You already **know** how to **ask java questions**, but you still **don't know** how to make **reasonable use of the answers**.
 - You have to have a mechanism which will allow you to **do something if a condition is met, and not do it if it isn't**
 - you go for a walk if the weather is good, or stay home if it's wet and cold
- To make such decisions, java offers a special instruction. Due to its nature and its application, it's called a **conditional instruction** (or **conditional statement**).

| if Single-Selection Statement

| Indentation

- The **indentation** of the body is **optional**, but **recommended**, because it emphasizes the inherent structure of structured programs
- **Indent** body of if statement. Most **IDEs** do this for you

| Block

- The **if statement** normally **expects only one statement** in its body.
- **To include several statements** in the body of an if (or the body of an else for an if...else statement), **enclose the statements in braces**.
- **Statements contained in braces** (such as a method's body) form a **block**. A **block** can be **placed** anywhere in a method that a **single statement can be placed**

| Semicolon

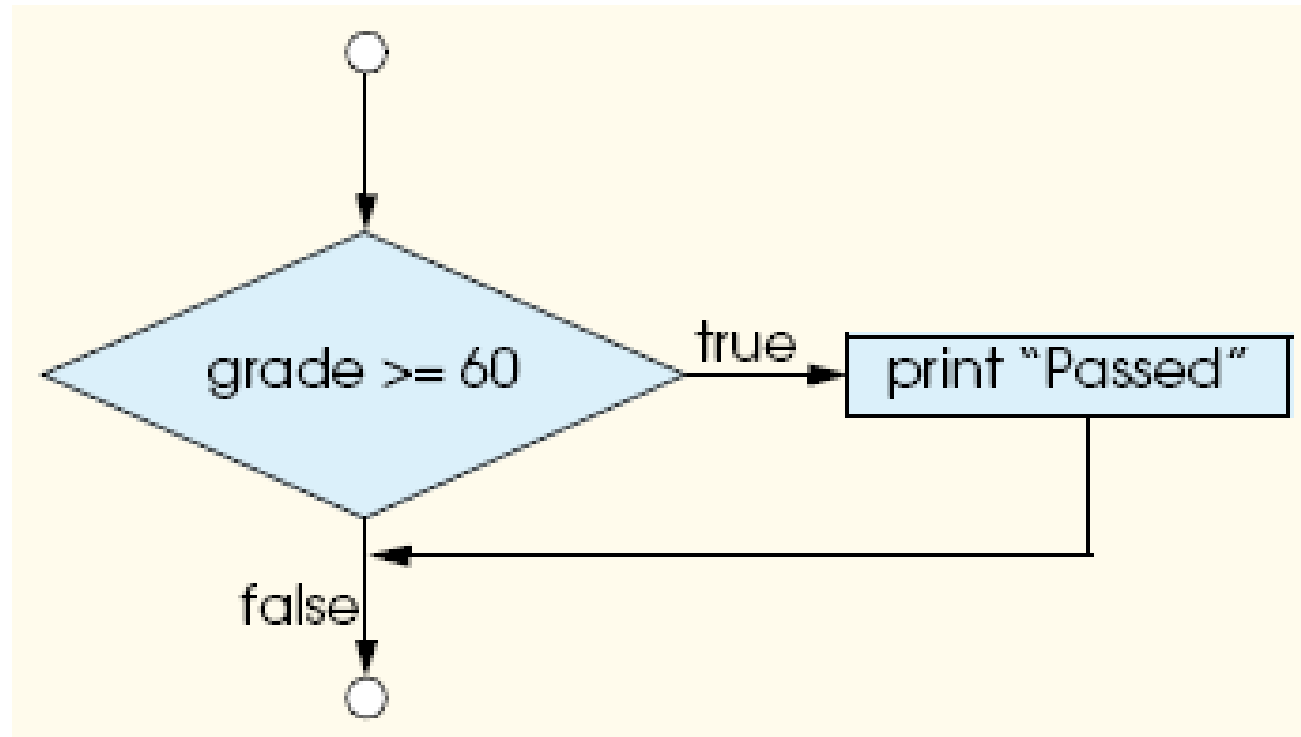
- notice that there is no semicolon at the end of the if. Instead, a new block should be defined using braces.
- Another common mistake is to put a semicolon after the condition

```
int x = 1;  
if (x % 2 == 0); { // incorrect semicolon  
    System.out.println("x is even");  
}
```

This code will compile, but the program will output "x is even" regardless of the value of x. Here is the same incorrect code with better formatting:

```
int x = 1;  
if (x % 2 == 0)  
    ; // empty statement  
{  
    System.out.println("x is even");  
}
```

| if Single-Selection Statement



| if Single-Selection Statement

- Pseudocode

*If student's grade is greater than or equal to 60
Print "Passed"*

- Java statement

```
if ( studentGrade >= 60 )  
    System.out.println( "Passed" );
```

| References

- Java: How to Program, 9th Edition (Deitel) 9th Edition by Paul Deitel , Harvey M. Deitel
- Head First Java, 2nd Edition 2nd Edition by Kathy Sierra, Bert Bates
- Think Java: How to Think Like a Computer Scientist 1st Edition by Allen B. Downey, Chris Mayfield